CLAIMS

What is claimed is:

1. An apparatus comprising:

a half cell measuring a potential of a tank, the measured potential indicating an amount of corrosion of the tank and the cathodic protection level of the tank.

2. An apparatus according to claim 1, said apparatus further comprising:

an anode measuring a current demand of cathodic areas of a tank, the current demand indicating the amount of corrosion of the tank and the level of coatings degradation.

3. An apparatus according to claim 1, wherein the indicated amount of corrosion is in one of at least two different ranges.

4. An apparatus according to claim 3, wherein a polarization corresponding to the measured potential is used to determine the amount of corrosion of the tank and the cathodic protection level of the tank.

5. An apparatus according to claim 4, wherein the polarization is above a specific level indicating that the amount of corrosion is in a first range of said one of at least two different ranges.

6. An apparatus according to claim 4, wherein the polarization is within a specific level indicating that the amount of corrosion is between a first and second range of said one of at least two different ranges.

7. An apparatus according to claim 4, wherein the polarization is below a specific level indicating that the amount of corrosion is in a second range of said one of at least two different ranges.

8. An apparatus comprising:

an anode measuring a current demand of cathodic areas of a tank, the current demand indicating an amount of corrosion of the tank.

9. An apparatus according to claim 8, wherein the indicated amount of corrosion is in one of at least two different ranges.

10. An apparatus according to claim 9, wherein the measured current output is below a specific level indicating that the amount of corrosion is in a first range of said one of at least two different ranges.

11. An apparatus according to claim 9, wherein the measured current output is within a specific level indicating that the amount of corrosion of the tank is between a first and second range of said one of at least two different ranges.

12. An apparatus according to claim 9, wherein the measured current output is above a specific level indicating that the amount of corrosion of the tank is in a second range of said one of at least two different ranges.

13. An apparatus according to claim 8, wherein the anode is a instrumented sacrificial anode which uses a type ZHC-24 zinc.

14. An apparatus comprising:

half cells measuring a potential which corresponds to a polarization of a tank; and

an anode measuring a current demand of cathodic areas of a tank, the polarization and the measured current demand together indicating an amount of corrosion of the tank and the level of coatings degradation.

15. An apparatus according to claim 14, wherein the indicated amount of corrosion is in one of at least two different ranges.

16. An apparatus according to claim 15, wherein the polarization is above a specific level indicating that the amount of corrosion is in a first range of said one of at least two different ranges.

17. An apparatus according to claim 15, wherein the polarization is within a specific level indicating that the amount of corrosion is between a first and second range of said one of at least two different ranges.

18. An apparatus according to claim 15, wherein the polarization is below a specific level indicating that the amount of corrosion is in a second range of said one of at least two different ranges.

19. An apparatus according to claim 15, wherein the measured current demand is below a specific level indicating that the amount of corrosion is in a first range of said one of at least two different ranges.

20. An apparatus according to claim 15, wherein the measured current demand is within a specific level indicating that the amount of corrosion is between a first and second range of said one of at least two different ranges.

21. An apparatus according to claim 15, wherein the measured current output is above a specific level indicating a condition in which an amount of corrosion is in a second range of said one of at least two different ranges.

22. An apparatus according to claim 16, wherein the specific level is more negative than -900mV.

23. An apparatus according to claim 17, wherein the specific level is between -750 and -900mV.

24. An apparatus according to claim 18, wherein the specific level is less negative than -750mV.

25. An apparatus according to claim 19, wherein the specific level is less than 75mA.

26. An apparatus according to claim 20, wherein the specific level is between 75 and 175mA.

27. An apparatus according to claim 21, wherein the specific level is more than 175mA.

28. A method comprising:

measuring a potential which corresponds to a polarization of a tank; and

measuring a current output of an instrumented sacrificial anode, the polarization and the measured current output together indicating an amount of corrosion of the tank and the level of coatings degradation.

29. An apparatus comprising:

first means for measuring a potential which corresponds to a polarization of a tank; and

second means for measuring a current output of an instrumented sacrificial anode, the polarization and the measured current output together indicating an amount of corrosion to the tank and the level of coatings degradation.

30. A method as in claim 28, further comprising:

comparing said amount of corrosion of the tank with amounts of corrosion in other tanks, and

determining which of said tanks requires maintenance.

31. A method as in claim 31, further comprising:

scheduling tanks for maintenance based on compared amounts of corrosion in said tanks.

32. An apparatus as in claim 1, further comprising:

a second half cell for measuring a potential of said tank,

wherein said half cell and said second half cell measure potential at different levels of a tank.

33. An apparatus as in claim 32, further comprising:

a data storage device for storing said current output and said potential measurements.

34. An apparatus as in claim 33, further comprising a tank level indicator.

35. A method for determining whether a tank requires maintenance comprising:

measuring a potential which corresponds to a polarization of a tank during the filling episode of a tank,

measuring a current output of an instrumented sacrificial anode during the filling episode of a tank

comparing said potential and said current output with preset levels to determine whether a tank requires maintenance.